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PTO/SB/05 (4/98)  
Approved for use through 09/30/2000 OMB 0651-0032  
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UTILITY  
PATENT APPLICATION  
TRANSMITTAL

Attorney Docket No.

042390.P9741

First Inventor or Application Identifier

Graham S. Tubbs

Title

WIRELESS COMPUTING DEVICE AND METHOD THEREFORE

Express Mail Label No.

EL034435704US

(Only for new nonprovisional applications under 37 CFR 1.53(b))

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents

ADDRESS TO:

Assistant Commissioner for Patents  
Box Patent Application  
Washington, DC 20231

1. ☒ Fee Transmittal Form  
(Submit an original, and a duplicate for fee processing)
2. ☒ Specification [Total Pages 17]  
(preferred arrangement set forth below)
- Descriptive title of the Invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the Invention
  - Brief Summary of the Invention
  - Brief Description of the Drawings (if filed)
  - Detailed Description
  - Claim(s)
  - Abstract of the Disclosure
3. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 2]
4. Oath or Declaration [Total Pages 4]
- a. ☐ Newly executed (original copy)
  - b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))  
(for continuation/divisional with Box 16 completed)
  - i. ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting  
inventor(s) named in the prior application,  
see 37 CFR §§ 1.63(d)(2) and 1.33(b).

5. ☐ Microfiche Computer Program (Appendix)
6. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
- a. ☐ Computer Readable Copy
  - b. ☐ Paper Copy (identical to computer copy)
  - c. ☐ Statement verifying identity of above copies

## ACCOMPANYING APPLICATION PARTS

7. ☐ Assignment Papers (cover sheet & document(s))
8. ☐ 37 C.F.R. § 3.73(b) Statement ☐ Power of Attorney  
(when there is an assignee)
9. ☐ English Translation Document (if applicable)
10. ☐ Information Disclosure Statement (IDS)/PTO - 1449 ☐ Copies of IDS Citations
11. ☐ Preliminary Amendment
12. ☐ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
13. ☐ \*Small Entity Statement filed in prior application, Status still proper and desired
14. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
15. ☐ Other: .....

\*NOTE FOR ITEMS 1 & 13: IN ORDER TO BE ENTITLED TO PAY SMALL ENTITY FEES, A SMALL ENTITY STATEMENT IS REQUIRED (37 C.F.R. § 1.27), EXCEPT IF ONE FILED IN A PRIOR APPLICATION IS RELIED UPON (37 C.F.R. § 1.28).

16. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: \_\_\_\_\_

Prior application Information: Examiner \_\_\_\_\_

Group/Art Unit: \_\_\_\_\_

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

## 17. CORRESPONDENCE ADDRESS

☐ Customer Number of Bar Code Label

(Insert Customer No. or Attach bar code label here)

or ☒ Correspondence address below

Name

BLAKELY, SOKOLOFF, TAYLOR &amp; ZAFMAN LLP

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Clive D. Menezes, Reg. No. 45,493

Signature

Date

09/14/00

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Box Patent Application, Washington, DC 20231.

Please type a plus sign (+) inside this box → +

<h2 style="margin: 0;">FEE TRANSMITTAL for FY 1999</h2> <p style="font-size: small; margin: 5px 0;">Patent fees are subject to annual revision. Small Entity payments must be supported by a small entity statement, otherwise large entity fees must be paid. See Forms PTO/SB/09-12. See 37 C.F.R. §§ 1.27 and 1.28.</p>		<p><b>Complete if Known</b></p>																
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">TOTAL AMOUNT OF PAYMENT</td> <td style="width: 10%;">(\$)</td> <td style="width: 60%; text-align: right;">708.00</td> </tr> </table>		TOTAL AMOUNT OF PAYMENT	(\$)	708.00	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td style="width: 50%;"></td> </tr> <tr> <td>Filing Date</td> <td>September 14, 2000</td> </tr> <tr> <td>First Named Inventor</td> <td>Graham S. Tubbs</td> </tr> <tr> <td>Examiner Name</td> <td></td> </tr> <tr> <td>Group/Art Unit</td> <td></td> </tr> <tr> <td>Attorney Docket No.</td> <td>042390.P9741</td> </tr> </table>		Application Number		Filing Date	September 14, 2000	First Named Inventor	Graham S. Tubbs	Examiner Name		Group/Art Unit		Attorney Docket No.	042390.P9741
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<h3 style="text-align: center; margin: 0;">METHOD OF PAYMENT (check one)</h3> <p>1. <input type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees:</p> <p>2. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to credit any over payments to</p> <p>Deposit Account Number: <span style="border: 1px solid black; padding: 2px; display: inline-block; width: 150px;">02-2666</span></p> <p>Deposit Account Name: <span style="border: 1px solid black; padding: 2px; display: inline-block; width: 250px;">Blakely, Sokoloff, Taylor &amp; Zafman LLP</span></p> <p><input checked="" type="checkbox"/> Charge Any Additional Fees Required Under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20</p> <p>2. <input checked="" type="checkbox"/> Payment Enclosed:</p> <p><input checked="" type="checkbox"/> Check    <input type="checkbox"/> Money Order    <input type="checkbox"/> Other</p> <h3 style="text-align: center; margin: 10px 0;">FEE CALCULATION</h3> <div style="border: 1px solid black; padding: 5px;"> <p><b>1. 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EXTRA CLAIM FEES</b></p> <table style="width: 100%; font-size: small;"> <tr> <th colspan="2">Total Claims</th> <th colspan="2">Extra Claims</th> <th colspan="2">Fee from below</th> <th colspan="2">Fee Paid</th> </tr> <tr> <td>Independent</td> <td>21</td> <td>-</td> <td>20</td> <td>=</td> <td>1</td> <td>X</td> <td>18.00</td> </tr> <tr> <td>Multiple Dependent</td> <td>2</td> <td>-</td> <td>3</td> <td>=</td> <td>0</td> <td>X</td> <td>78.00</td> </tr> <tr> <td colspan="6"></td> <td></td> <td></td> </tr> </table> <p><small>*or number previously paid, if greater. 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Typed or Printed Name	Clive D. Menezes			Reg. Number	45,493
Signature				Date	09/14/00
				Deposit Account User ID	02-2666

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APPLICATION FOR UNITED STATES LETTERS PATENT

FOR

WIRELESS COMPUTING DEVICE AND METHOD THEREFORE

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## WIRELESS COMPUTING DEVICE AND METHOD THEREFORE

BACKGROUND

Wireless communication systems are often regulated by governing agencies (e.g. state or national governments) to reduce the risk that one communication system interferes with another. Regulations are typically implemented through cellular standards that define the conditions under which transmissions made be made. For example, a standard may describe how a base station or a cellular phone may transmit a message. Consequently, the standards strongly tie together the operation of the components of a cellular system and provide little, if any, flexibility in how the components of the system may operate.

To further reduce the risk of interference between communication systems, governing agencies often require that a wireless product be thoroughly tested before is may be permitted to be used in a particular market. Such testing is referred to as type approval and is intended to determine if a particular wireless product operates properly within the standard and not interfere with other wireless communications. However, if even the slightest of modifications is made with a new model of a product (e.g., a new feature or form factor), the new product usually has to go through the entire type approval process.

Consequently, the standards used to govern wireless communications system make it difficult for third parties to develop new applications or add new features to wireless computing or communication devices. Thus, there is a continuing need for ways to allow applications and features to be added to wireless devices.

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## BRIEF DESCRIPTION OF THE DRAWINGS

The subject matter regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The invention, however, both as to organization and method of operation, together with objects, features, and advantages thereof, may best be understood by reference to the following detailed description when read with the accompanying drawings in which:

FIG. 1 is a block diagram representation of an embodiment of a portable device in accordance with an embodiment of the present invention; and

FIG. 2 is a module diagram representing the relationship between programs executed on a portable device in accordance with an embodiment of the present invention.

It will be appreciated that for simplicity and clarity of illustration, elements illustrated in the figures have not necessarily been drawn to scale. For example, the dimensions of some of the elements are exaggerated relative to other elements for clarity. Further, where considered appropriate, reference numerals have been repeated among the figures to indicate corresponding or analogous elements.

## DETAILED DESCRIPTION

In the following detailed description, numerous specific details are set forth in order to provide a thorough understanding of the invention. However, it will be understood by those skilled in the art that the present invention may be practiced without these specific

details. In other instances, well-known methods, procedures, components and circuits have not been described in detail so as not to obscure the present invention.

Some portions of the detailed description which follow are presented in terms of algorithms and symbolic representations of operations on data bits or binary digital signals within a computer memory. These algorithmic descriptions and representations may be the techniques used by those skilled in the data processing arts to convey the substance of their work to others skilled in the art.

An algorithm is here, and generally, considered to be a self-consistent sequence of acts or operations leading to a desired result. These include physical manipulations of physical quantities. Usually, though not necessarily, these quantities take the form of electrical or magnetic signals capable of being stored, transferred, combined, compared, and otherwise manipulated. It has proven convenient at times, principally for reasons of common usage, to refer to these signals as bits, values, elements, symbols, characters, terms, numbers or the like. It should be understood, however, that all of these and similar terms are to be associated with the appropriate physical quantities and are merely convenient labels applied to these quantities.

Unless specifically stated otherwise, as apparent from the following discussions, it is appreciated that throughout the specification discussions utilizing terms such as "processing," "computing," "calculating," "determining," or the like, refer to the action and/or processes of a computer or computing system, or similar electronic computing device, that manipulate and/or transform data represented as physical, such as electronic, quantities within the computing system's registers and/or memories into other data similarly represented as physical quantities within the computing system's memories,

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registers or other such information storage, transmission or display devices.

Embodiments of the present invention may include apparatuses for performing the operations herein. This apparatus may be specially constructed for the desired purposes, or it may comprise a general purpose computing device selectively activated or

5 reconfigured by a program stored in the device. Such a program may be stored on a storage medium, such as, but is not limited to, any type of disk including floppy disks, optical disks, CD-ROMs, magnetic-optical disks, read-only memories (ROMs), random access memories (RAMs), electrically programmable read-only memories (EPROMs), electrically erasable and programmable read only memories (EEPROMs), magnetic or  
10 optical cards, or any other type of media suitable for storing electronic instructions, and capable of being coupled to a system bus for a computing device.

The processes and displays presented herein are not inherently related to any particular computing device or other apparatus. Various general purpose systems may be used with programs in accordance with the teachings herein, or it may prove convenient  
15 to construct a more specialized apparatus to perform the desired method. The desired structure for a variety of these systems will appear from the description below. In addition, embodiments of the present invention are not described with reference to any particular programming language. It will be appreciated that a variety of programming languages may be used to implement the teachings of the invention as described herein.

20 In the following description and claims, the terms "coupled" and "connected," along with their derivatives, may be used. It should be understood that these terms are not intended as synonyms for each other. Rather, in particular embodiments, "connected" may be used to indicate that two or more elements are in direct physical or electrical contact with each other.

“Coupled” may also mean that two or more elements are in direct physical or electrical contact. However, “coupled” may also mean that two or more elements are not in direct contact with each other, but yet still co-operate or interact with each other.

It should be understood that the present invention may be used in a variety of applications. Although the present invention is not limited in this respect, the circuit disclosed herein may be used in many apparatuses such as in the transmitters and receivers of a radio system. Radio systems intended to be included within the scope of the present invention include, by way of example only, cellular radiotelephone communication systems, two-way radio communication systems, one-way pagers, two-way pagers, personal communication systems (PCS), personal digital assistants (PDA's) and the like.

Types of cellular radiotelephone communication systems intended to be within the scope of the present invention include, although not limited to, Direct Sequence - Code Division Multiple Access (DS-CDMA) cellular radiotelephone communication systems, Global System for Mobile Communications (GSM) cellular radiotelephone systems, North American Digital Cellular (NADC) cellular radiotelephone systems, Time Division Multiple Access (TDMA) systems, and Extended-TDMA (E-TDMA) cellular radiotelephone systems

Turning to FIG. 1, an embodiment 100 in accordance with the present invention is described. Embodiment 100 may comprise a portable computing or communication device 10 such as a mobile communication device (e.g., cell phone), a two-way radio communication system, a one-way pager, a two-way pager, a personal communication system (PCS), a portable computer, or the like. Although it should be understood that the scope and application of the present invention is in no way limited to these examples.

Portable device 10 may comprise an application platform 20 and a communication

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platform 30 that are coupled together with an interface 50. Although the scope of the present invention is not limited in this respect, application platform 20 may allow a user to execute a variety of application programs such as email, calendaring, address books, etc. Application platform 20 may also execute any application that are commonly executed on a desktop system, such as, for example, word processing, financial programs, etc.

Application platform may comprise a processor 21 such as, for example, a complex instruction set (CISC) processor, a reduced instruction set (RISC) processor, or the like. Processor 21 may be coupled to an Input/Output (I/O) port 25 that may be used to receive or transmit data from a user. For example, I/O port 25 may be a keyboard, keypad, trackball, or the like. I/O port 25 may be used to select which program(s) are to be executed by processor 21 or to provide application platform 20 with data from the user.

I/O port 25 may also be used to provide communication platform 30 with data. For example, a user may provide the phone number that is to be used to initiate a wireless communication. In this particular embodiment, I/O port 25 may be coupled to both application platform 20 and communication platform 30 to reduce the number of input ports, and thus, the form factor for portable device 10. However, in alternative embodiments, application platform 20 and communication platform 30 may have separate I/O ports.

Application platform 20 may also comprise a memory 22, such as SRAM, that may be used to store data or instructions for processor 21. Memory 22 may also comprise non-volatile storage devices such as flash memory, a disk drive or the like. Application platform 20 may also comprise a display device 23 such as a liquid crystal display (LCD) to display information associated with programs being executed on either application platform 20 or communication platform 30.

Communication platform 30 may comprise a receiver/transmitter (RT) unit 32 coupled to an antennae 34. A processor 31 may be used to process the wireless communications received by RT unit 32 or to be transmitted by communication platform 30. Processor 31, may comprise a CISC processor, a RISC processor, a digital signal processor, or any combination thereof. In this particular embodiment, processor 31 may be use to process communications independently from processor 21 of application platform 20. For example, processor 31 may be used to transmit or receive communications even if processor 21 is not in operation or is powered off.

Processor 31 may be coupled to a memory 33 that may comprise, for example, volatile memory, such as SRAM, or non-volatile memory, such as flash. Memory 31 may be used to store communications received by communication platform 30 or to store user profile data (e.g., security or identification data) that may be used to transmit a communication. At least one advantage of this particular embodiment is that memory 33 and memory 22 may be separate from each other and be operated independently. This may be advantageous in that wireless platform 30 may be operated independently from application platform 20 and vice versa. This may also provide power savings since either memory 22 or 33 may be power off when not in use. It should also be understood that communication platform 30 may comprise other components, such as filters, A/D converters, etc (not shown) that may be used to transmit or receive wireless communications.

Portable device 10 may also comprise an interface 50 to couple application platform 20 and communication platform 30. Interface 50 may comprise, for example, a PCMIA (what does this stand for), a serial bus, or other connections to exchange information when appropriate. For example, interface 50 may allow application platform 20 to initiate a

communication with communication platform 30 or may permit communication platform 30 to provide application platform 20 with data that received with a communication.

In addition, interface 50 may allow application platform 20 and communication platform 30 to operate independently from each other. For example, interface 50 may, among other things, control the flow of data or commands between application platform 20 and communication platform 30. Consequently, interface 50 may isolate, either in whole or part, application platform 20 and communication platform 30 from each other. By controlling the flow of data or commands, interface 50 may reduce the risk that application platform 20 inappropriately transmits a message or interferes with other communication systems by causing communication platform 20 to malfunction. This may be desirable to reduce the risk that a virus on application platform 20 infects or affects communication platform 30. This, in turn, may reduce the risk that communication platform 30 inappropriately affects the communication system with which it is in communication. Likewise, interface 50 may also control or restrict the flow of information that is shared from communication platform 20 to application platform 30.

Interface 50 may also provide a standard or uniform technique for sharing information between application platform 30 and communication platform 20. For example, interface 50 may permit processor 21 and processor 31 to share information (e.g., information stored in memory 22 or 33), or may couple communication platform 30 to I/O port 20 so that a user may provide data or commands to communication platform 30. This may provide the flexibility of writing or executing computer programs (e.g., applications, operating systems, etc) on application platform 20 without having to tailor the computer programs to the particular protocol employed by communication platform 30. Accordingly, interface 50 may permit

applications to be developed for portable device 10 without having to undergo the formal and time consuming type-approval process.

Referring now to FIG. 2, an example of how interface 50 may be used to isolate an application platform from a communication platform in accordance with an embodiment of the present invention is provided. FIG. 2 is intended to illustrate how various modules or computer programs of an application platform and a wireless platform may be arranged with respect to each other. In this particular example, portable device 10 may comprise a application subsystem 120 that is couple to a wireless subsystem 130 by interface 50.

Application subsystem 120 may include an operating system 121 and applications 122 that are executed on processor 21 (see FIG. 1). Although the scope of the present invention is not limited in this respect, operating system may include: Blah blah blah.

Applications 131 may also be executed on processor 21 and include programs intended to process the data provide by a user through an input port (e.g. I/O port 25 of FIG. 1), from wireless subsystem 130, or both. Again, although the invention is not limited in this respect, applications 122 may include blah blah blah.

Wireless subsystem may comprise a communication protocol module 131 that may be used to implement that particular communication standard employed by portable device 10.

The communication protocol may be implemented with a real time operating system 132 executing on a processor (e.g., processor 31 of FIG. 1). Wireless subsystem 133 may also comprise a radio 133 that may be implemented in hardware, software, or a combination thereof. As shown, interface 50 provides isolation between application subsystem 120 and wireless subsystem 130 so that applications may be executed on application subsystem 120 regardless of the particular communication protocol 131 implemented by wireless subsystem

130.

Interface 50 also provides for the appropriate and control sharing of data between application subsystem 120 and wireless subsystem 130. For example, interface 50 may permit application platform 120 to initiate or receive a communication using wireless subsystem 130. Interface 50 may also permit a user to provide wireless subsystem 130 with data through an input port (e.g., I/O port 25 of FIG. 1). Consequently, in this particular embodiment, interface 50 may provide sufficient isolation so that applications may be run on application subsystem 120 without interfering with wireless subsystem 130, while at the same time, allowing applications to process the data received through wireless communications. It should be understood that in various embodiments of the present invention, interface 50 may comprise various levels of intelligence or sophistication that provides isolation between application subsystem 120 and wireless subsystem 130. Alternatively, however, interface 50 may not comprise any intelligence and simply be a data path between application subsystem 120 and wireless subsystem 130.

While certain features of the invention have been illustrated and described herein, many modifications, substitutions, changes, and equivalents will now occur to those skilled in the art. For example, application platform 20 and wireless platform 30 may share a common power source, while in alternative embodiments, application platform 20 and wireless platform 30 may have independent power sources that permit processors 21 and 31 to be operated independently. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the invention.

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## Claims:

## 1. An apparatus comprising:

a first processor adapted to execute a user application;

a second processor adapted to process a wireless communication; and

an input port coupled to the first processor and the second processor.

## 2. The apparatus of claim 1, further comprising a display, wherein the first

processor and the second processor are further adapted to display information on the display.

## 3. The apparatus of claim 1, further comprising an interface adapted to couple the

first processor to the second processor.

## 4. The apparatus of claim 3, wherein the interface comprises a Peripheral Interface

Components bus.

## 5. The apparatus of claim 3, wherein the interface comprises a serial bus.

## 6. The apparatus of claim 3, wherein the interface is adapted to provide the second

processor user data from the input port.

## 7. The apparatus of claim 1, further comprising:

a first memory coupled to the first processor; and

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a second memory coupled to the second processor.

8. The apparatus of claim 1, further comprising:

a first power source coupled to the first processor; and

a second power source coupled to the second processor.

9. The apparatus of claim 1, wherein the second processor comprises a digital signal processor.

10. The apparatus of claim 1, wherein the first processor is further adapted to execute a user application independently of the second processor.



11. A system comprising:

a non-volatile memory;

an input port;

an application subsystem coupled to the input port; and

5 a wireless subsystem coupled to the input port and to the non-volatile memory.

12. The system of claim 11, further comprising an interface to couple the application subsystem to the wireless subsystem.

10 13. The system of claim 12, wherein the interface comprises a serial interface.

14. The system of claim 11, wherein the wireless subsystem comprises a digital signal processor.

15 15. The system of claim 14, wherein the wireless subsystem further comprises a transmitter and a receiver.

16. The system of claim 11, wherein the application subsystem is adapted to execute a user application and process data provided with the input port.

20 17. The system of claim 12, wherein the interface couples the wireless subsystem to the input port.

18. A method of processing a communication comprising:

providing data to an application subsystem through an input port; and

providing data to a wireless subsystem through the input port to initiate a wireless communication.

5

19. The method of claim 18, wherein providing data to the application subsystem includes providing data through an interface.

20. The method of claim 18, wherein providing data to the wireless subsystem

10 includes providing data through an interface.

21. The method of claim 19, further comprising executing an application with the application subsystem independently of the wireless subsystem.

## WIRELESS COMPUTING DEVICE AND METHOD THEREFORE

Abstract

Briefly, in accordance with one embodiment of the invention, a portable computing  
5 or communication device may include an application subsystem coupled to a wireless  
subsystem with an interface. The interface may provide isolation between the application  
subsystem and the wireless subsystem.

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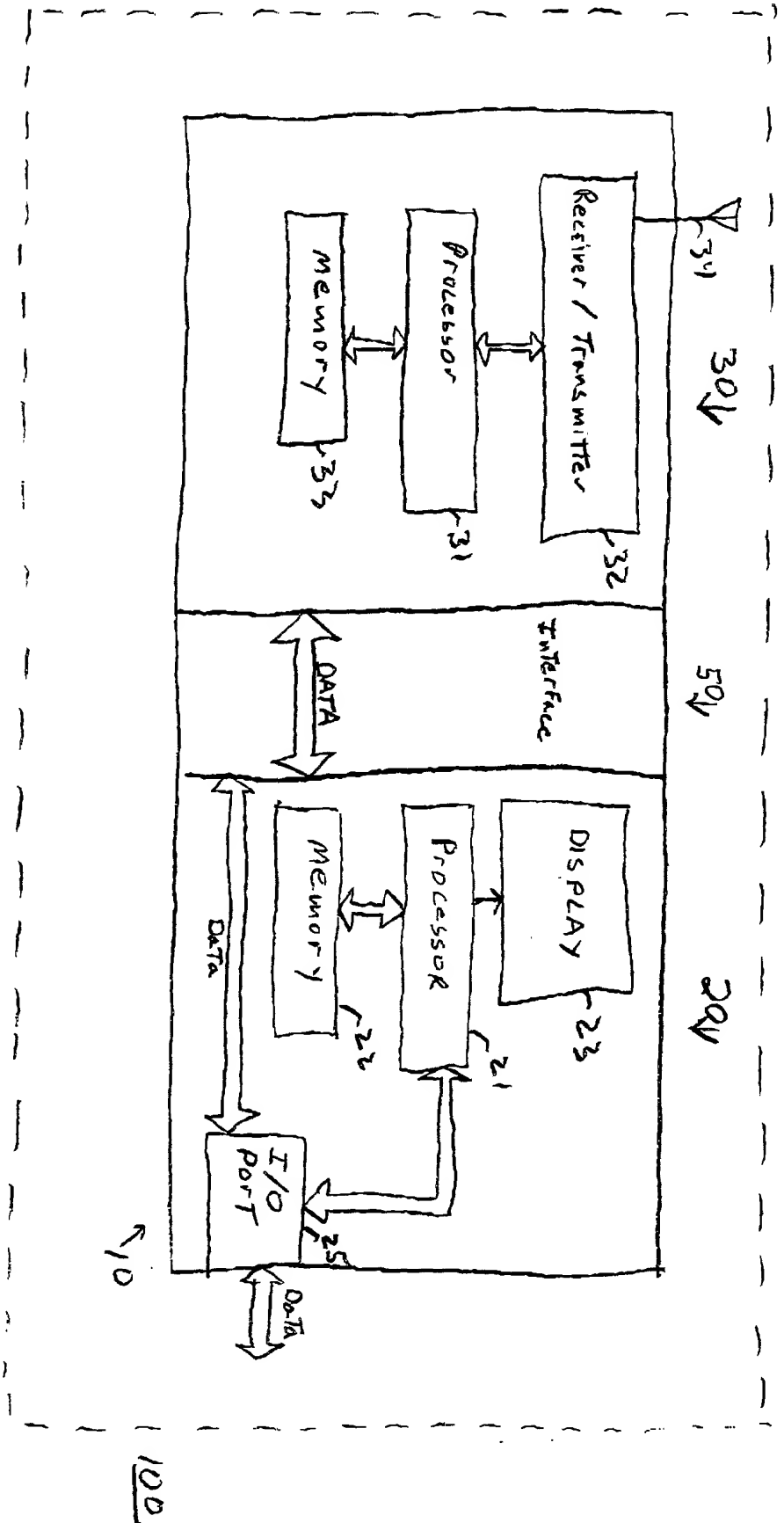
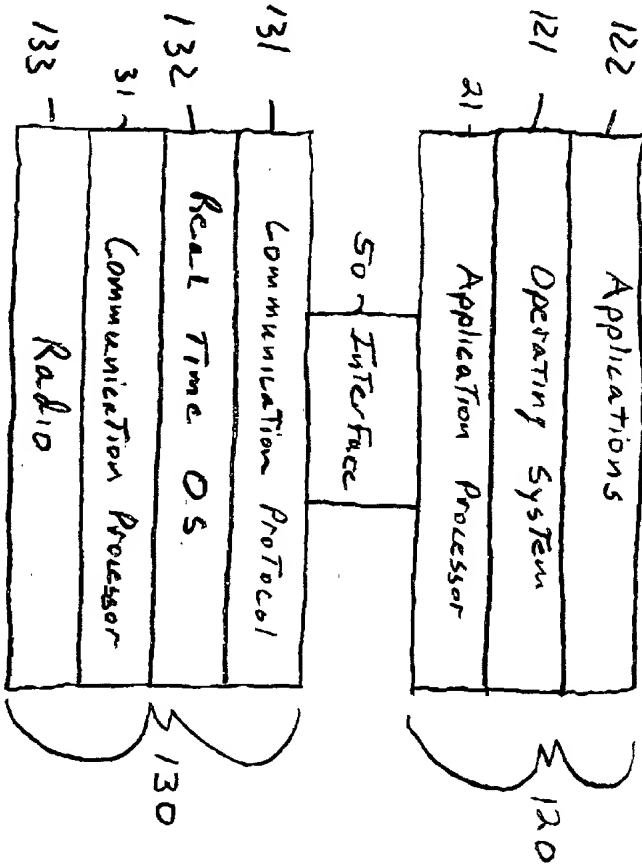


Fig 1

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F/G.2

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 Tabbs et al

22-141 50 SHEETS  
 22-142 100 SHEETS  
 22-144 200 SHEETS



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**DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION  
(FOR INTEL CORPORATION PATENT APPLICATIONS)**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below, next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**WIRELESS COMPUTING DEVICE AND METHOD THEREFORE**

the specification of which

☒ is attached hereto.  
☐ was filed on \_\_\_\_\_ as \_\_\_\_\_  
 United States Application Number \_\_\_\_\_  
 or PCT International Application Number \_\_\_\_\_  
 and was amended on \_\_\_\_\_  
 (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above. I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, and that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d), of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**Prior Foreign Application(s):**

APPLICATION NUMBER	COUNTRY (OR INDICATE IF PCT)	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> No <input type="checkbox"/> Yes
			<input type="checkbox"/> No <input type="checkbox"/> Yes
			<input type="checkbox"/> No <input type="checkbox"/> Yes

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below:

APPLICATION NUMBER	FILING DATE

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

APPLICATION NUMBER	FILING DATE	STATUS (ISSUED, PENDING, ABANDONED)

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Send correspondence to:

Kenneth M. Seddon, Reg. No. 43,105, BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

(Name of Attorney or Agent)

12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025 and direct telephone calls to:

Kenneth M. Seddon, (503) 684-6200.

(Name of Attorney or Agent)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**Full Name of Sole/First Inventor** (given name, family name)

**Graham S. Tubbs**

Inventor's Signature

Date

Residence

Citizenship

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(Country)

P. O. Address

**Full Name of Second/Joint Inventor** (given name, family name)

**Michael Chartier**

Inventor's Signature \_\_\_\_\_

Date \_\_\_\_\_

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(Country)

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\_\_\_\_\_

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Inventor's Signature \_\_\_\_\_

Date \_\_\_\_\_

Residence \_\_\_\_\_  
(City, State)

Citizenship \_\_\_\_\_  
(Country)

P. O. Address \_\_\_\_\_  
\_\_\_\_\_

**Full Name of Fifth/Joint Inventor** (given name, family name)

Inventor's Signature \_\_\_\_\_

Date \_\_\_\_\_

Residence \_\_\_\_\_  
(City, State)

Citizenship \_\_\_\_\_  
(Country)

P. O. Address \_\_\_\_\_  
\_\_\_\_\_



## APPENDIX A

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